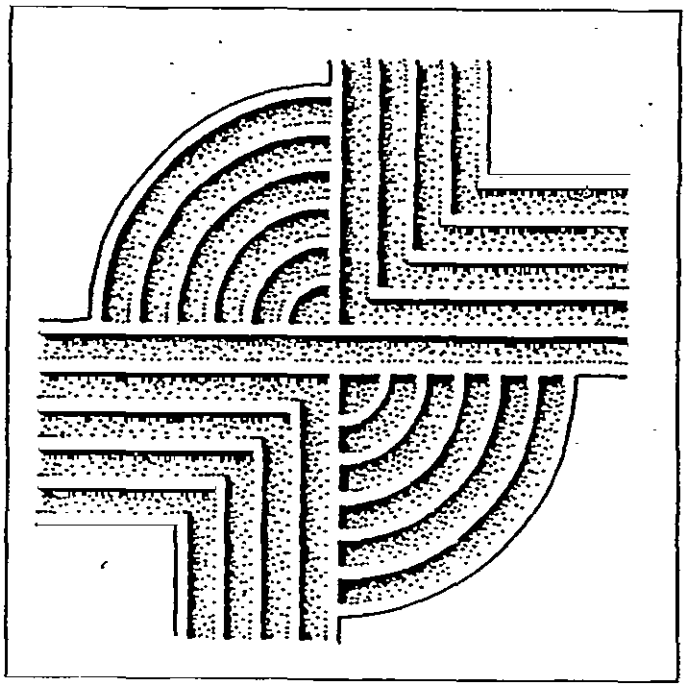
MANAGEMENT SUMMARY OF THE ARCHAEOLOGICAL SURVEY OF THE RSR CORPORATION FACILITY AREA TRACT, AIKEN COUNTY, SOUTH CAROLINA



RESEARCH CONTRIBUTION 99

MANAGEMENT SUMMARY OF THE ARCHAEOLOGICAL SURVEY OF THE RSR CORPORATION FACILITY AREA TRACT, AIKEN COUNTY, SOUTH CAROLINA

Prepared For:

Mr. H.R. Nulisch
RSR Corporation
Dallas, TX 75247

Prepared By:

Michael Trinkley
Natalie Adams

Chicora Research Contribution 99

Chicora Foundation, Inc.
P.O. Box 8664 ▫ 861 Arbutus Drive
Columbia, South Carolina 29202
803/787-6910

January 11, 1993

Introduction

The investigation of the proposed RSR Corporation facility area tract was conducted by Ms. Natalie Adams of Chicora Foundation, Inc. for RSR Corporation, Dallas, Texas. The approximately 440 acre tract has a slight "S" shape and is bordered to the south by the Southern Railroad right of way and U.S. 78. The remaining boundaries are artificially established to satisfy the buffer zone and setback requirements of the South Carolina Department of Health and Environmental Control Location Standards (Chapter 61-104). To the west this boundary is roughly located about 600 feet southeast of a pipeline corridor. The northern boundary is approximately 1500 feet south of SC 302 and the western boundary is set to provide a depth of about 3000 feet throughout (Figures 1 and 2).

Within the property is a network of dirt logging roads which give access to most of the property areas. There are also a number of small intermittent drainages which flow primarily south to north. Most of the parcel near U.S. 278 consists of agricultural fields, while the northern portions of the tract consist of pine second growth forest and pine/mixed hardwood forest with a moderate to dense understory of herbaceous vegetation. Portions of the area have been logged within the past 20 years and the historical research reveals that the study area has been intensively cultivated, primarily for cotton during the late nineteenth and early twentieth centuries.

The survey tract represents the facility area for a proposed lead battery recycling facility, defined as a "land-based unit" by the South Carolina Department of Health and Environmental Control Location Standards. It is within this area that the modification activities and hazardous waste storage associated with the proposed facility will be undertaken. The planned developments will likely consist of additional road, utilities, and industrial building construction, as well as landscaping. There will likely also be additional land modifications within this area as a result of environmental protection measures, such as decontamination pads or facilities, retaining walls, and monitoring wells. Construction activities will include extensive clearing, grubbing, and grading which have the potential to damage or destroy archaeological resources within the tract.

The proposed project was reviewed by the client's environmental consultants, Arthur D. Little, Inc. and an intensive archaeological survey was recommended to comply with the South Carolina Department of Health and Environmental Control Location Standards. Chicora was interviewed for the proposed project on November 13 and was requested to submit a budgetary proposal for such a survey by RSR Corporation on November 23, 1992. A proposal was submitted on December 2, 1992. The investigations proposed by Chicora Foundation were approved by Mr. H.R. Nulisch of RSR Corporation on December 4, 1992.

This study is intended to provide a synopsis of the archaeological survey of the Aiken facility tract. The project included three person days of archival research, conducted by Dr. Michael Trinkley at the Aiken County Clerk of Court, Barnwell County Register of Mesne Conveyances, the Barnwell County Public Library, the South Caroliniana Library, and the Thomas Cooper Map Repository. In addition, secondary sources were consulted to place the historic research in a local and regional framework.

Chicora Foundation consulted the statewide archaeological site files and bibliographic files held by the South Carolina Institute of Archaeology and Anthropology. No archaeological sites were recorded in the project area and most of the previous archaeological research, as discussed below, is associated with the Savannah River Plant. Chicora Foundation also reviewed the maps of the S.C.

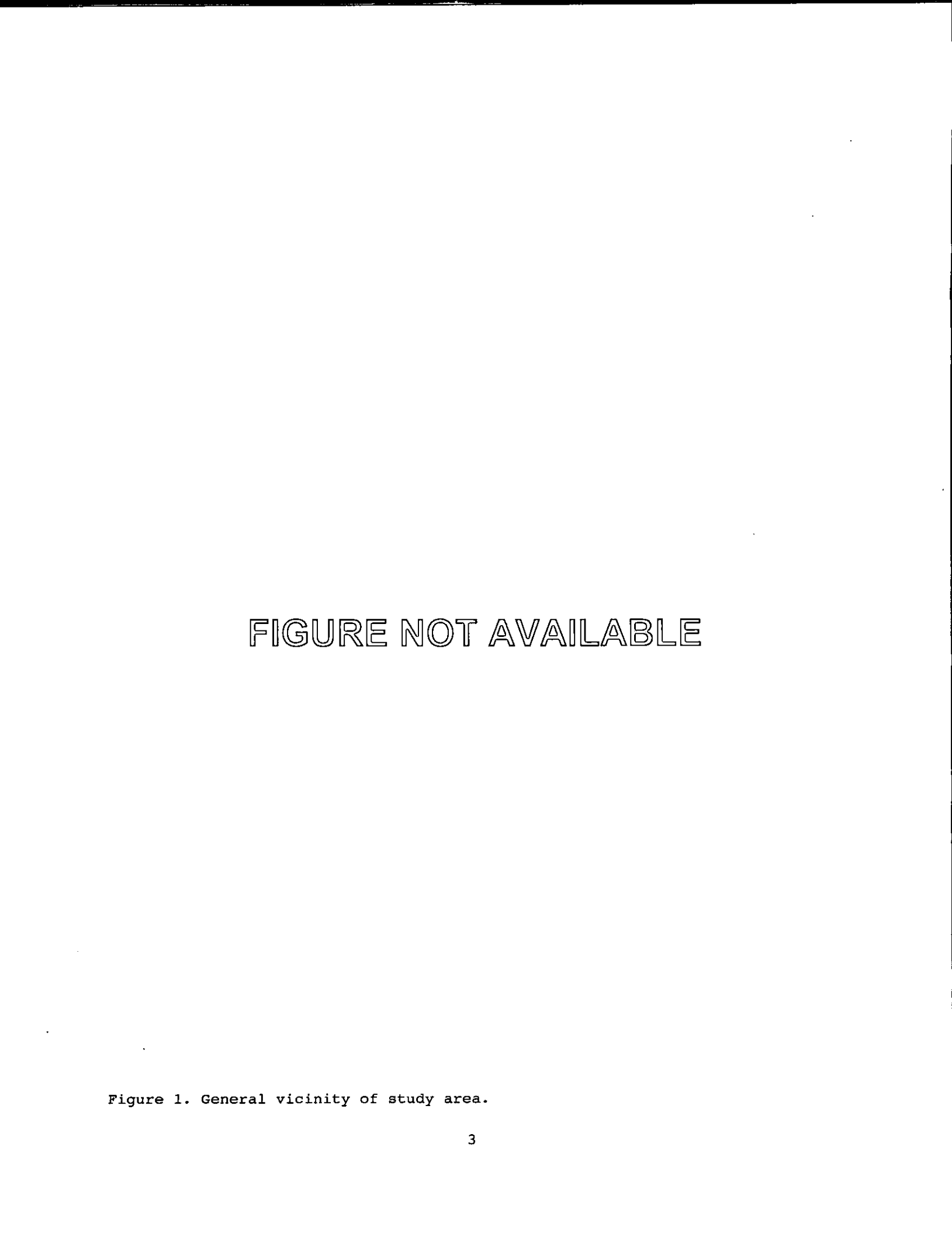


Figure 1. General vicinity of study area.

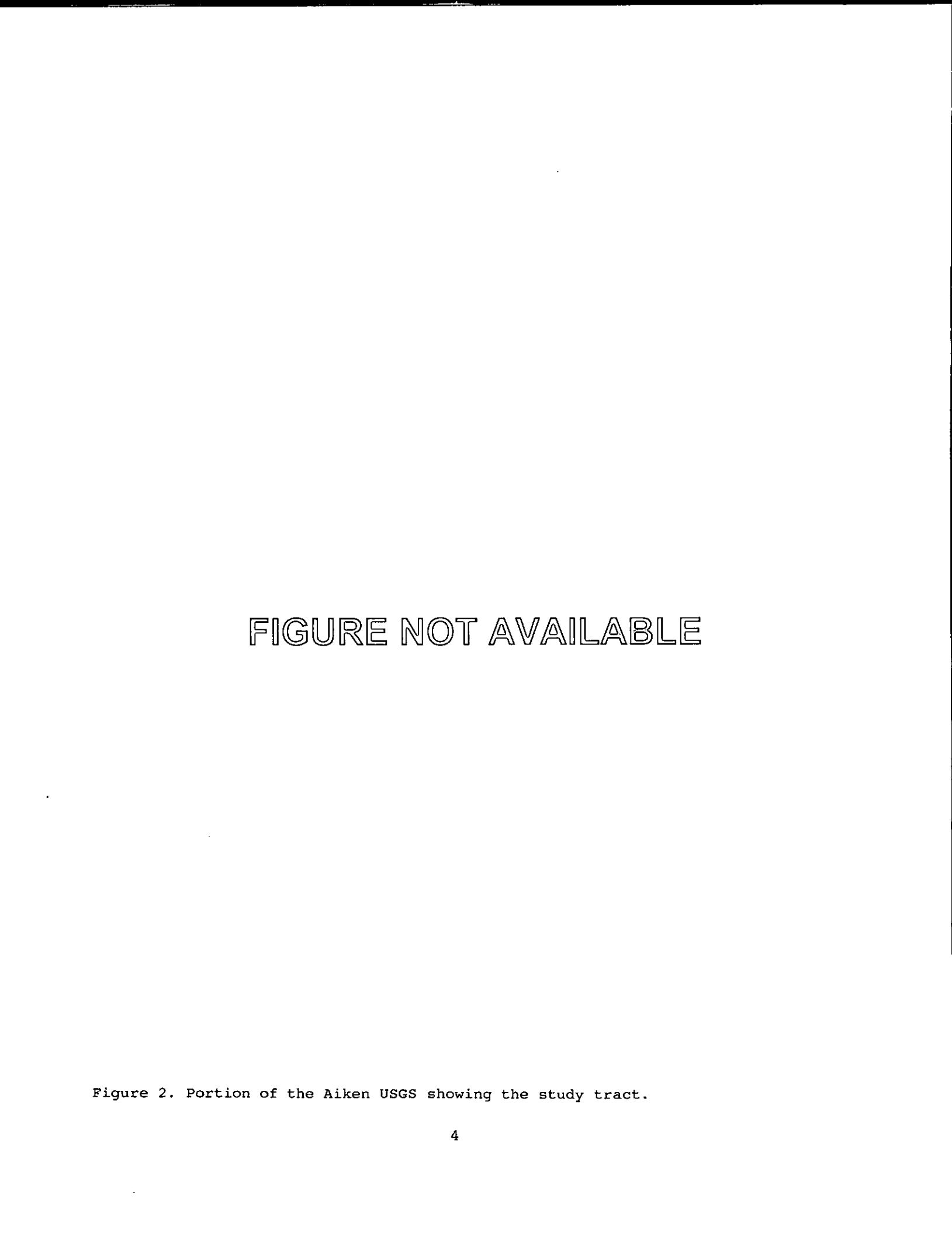


Figure 2. Portion of the Aiken USGS showing the study tract.

Department of Archives and History for information on any National Register sites, structures, or objects in the project area, as well as the results of any previous architectural surveys in the project area. No National Register sites on or in the vicinity of the facility area were found during this review. While an architectural survey of Aiken County had been undertaken in 1988, there were no recorded sites within the project boundaries. The few sites identified in the vicinity, such as site 005 0025, are not considered by the State Historic Preservation Office to be eligible as a district (Tracy Powers, personal communication 1993).

The field investigations were conducted January 4 through January 8, 1993 by Ms. Natalie Adams, Ms. Liz Pinckney, Ms. Darwin Styres-Ramsey, and Mr. Neils Taylor. This field work involved 160 person hours. Preliminary laboratory and the production of this management summary were conducted at Chicora's laboratories in Columbia, South Carolina on January 12 through January 14.

Arrangements are being made to curate the collections from these investigations at the South Carolina Institute of Archaeology and Anthropology. Cataloging will be conducted to the facility's standards at the completion of the study. Initial evaluation of the materials during washing reveals that none of the materials to be curated will require conservation treatments. All field records will be provided to the institution on pH neutral, alkaline buffered paper and the black and white photographic materials will be processed to archival permanence.

Effective Environment

Aiken County is located midway between the mountains and the coast. On the west the County is separated from Georgia by the Savannah River. To the north it is bordered by Edgefield and Saluda counties. To the east lays Lexington County with the bordered established by Chinquapin Creek and the North Edisto River. To the south Aiken County is bordered by Barnwell and Orangeburg counties. It is situated about 60 miles southwest of Columbia and 125 miles northwest of Charleston.

The topography varies dramatically as one moves from the Southern Coastal Plain in the southeastern portion of the county which is nearly level to gently sloping into the Carolina Sand Hills, which are characterized by more moderately steep topography. The Coastal Plain accounts for about 15% of the county, while the sandhills account for roughly 80%. In the northwestern corner of Aiken County there is a small area of Piedmont terrain, where the soils are dominantly sloping to very steep. Elevations in the county range from about 100 feet mean sea level (MSL) along the Savannah River to about 635 feet MSL in the northern portions (Rogers 1985:2).

The project area is found on a small "island" which may be characterized as either Coastal Plain or Sandhills, depending on the precise definition used. Given the dominance of the Sandhills in the immediate area, this study will largely discuss the effective environment within that context.

The Carolina Sandhills extends somewhat intermittently across the midlands of South Carolina, just below the fall line, in an irregular belt 5 to 30 miles wide. The fall line itself was sculpted by the strong erosion of rivers and streams passing from the hard crystalline bedrocks of the Piedmont into the loose, unconsolidated sands of the Coastal Plain. It is along this fall line where the rapidly descending rivers form shoals. The relationship of the Sandhills to these related physiographic features has been long debated, with a common explanation being that the Sandhills are the remnants of former beaches of the Cretaceous period about 130 million years ago (Barry 1980:97). Arguing against this, however, is the realization that in many areas (the survey tract included), the Sandhills are higher than the adjacent Piedmont. It seems more likely that this region represents the highly weathered, and discontinuous,

remnants of the continental phase of the Tuscaloosa formation which dates back to the Mesozoic (Dukes 1961).

Regardless, these questions of geology have little impact on the use of the Sandhills by either prehistory or historic people. More important to our understanding of past lifeways are the soils, climate, and flora of the Sandhills.

From a soils perspective excessively drained sands are found on 2 to 15% slopes and ridges. Well drained to moderately well drained soils with medium to fine textured, slightly compacted subsoils are found at the base of these slopes, although still on gently sloping topography. Excessively drained soils with loamy, compact subsoils are typically found on positions where the slopes break to meet the streams. Overall, inherent fertility and organic content of the soils are low. Leaching of plant nutrients is rapid and the soils are strongly acid.

In the project area the soils are broadly classified as the Faceville-Fuquay-Marlboro Complex, although individual series include Dothan loamy sands, Faceville sandy loams, Fuquay sands, Marlboro loamy sands, and Orangeburg loamy sands on the southern half of the tract. These occur primarily in the cultivated fields bordering U.S. 78 and have slopes ranging from 0 to 6%, although most are under 2%. As a group, these soils are well drained and are found on ridgetops. They have surface A or Ap horizons about 0.8 foot thick consisting of grayish brown to brown loamy sands overlaying B horizons of light yellowish brown sands. In the northern portion of the project area are soils such as Lucy sands, Troup sands and the Vaucluse-Ailey complex. These soils are typically well drained sloping soils found on narrow ridges, side slopes, and breaks along drainageways. Often slopes will exceed 10%, ranging up to 15%. Finally, there are areas of Ochlochonee sandy loam and Vaucluse-Ailey complex found in draws and valley depressions. In these areas the A horizon may be only 0.5 foot of dark brown sandy loam overlying a light brown B horizon (Rogers 1985).

Aiken County is just outside the area studied by Trimbel (1974), although adjacent Edgefield County was found to have lost over a foot of soil to erosion and the study area is part of the Cotton Plantation Area, recognized for its high Antebellum erosive land use with Postbellum continuation. This area, because of the nature of the soils, the type of agricultural products grown, and the form of tenancy common, suffered the greatest erosion in the South. Lowry (1934) found that while the level sandy soils of the region suffered little or no erosion, those associated with the steeper slopes, or along drainageways such as nearby Shaw Creek, suffered moderate sheet erosion. Based on this information it seems likely that while the southern portion of the study area has suffered little or no erosion, the northern area is likely to have been subjected to relatively high rates of erosion. This is especially true of those areas with slopes over 6% and those areas which have been logged. Logging alone can result in the erosion of 0.142 tons of soil per acre per year (compared to an undisturbed erosion rate of 0.006 tons per acre per year). When other factors associated with logging, such as logging roads, skid trails, and mechanical site preparation are added, the erosion rate can jump to over 10 tons per acre per year (United States Department of Agriculture 1980).

Moving to the climate, this portion of South Carolina is affected by the unusual convergence of three different weather systems. Those from the west tend to stall in the Appalachian Mountains, moist warm air masses from the Gulf of Mexico move into the area, and coastal systems come in off the Atlantic Ocean. The result, however, is far from unpleasant. In fact, Aiken has been known for at nearly 150 years as a health resort, because of its weather. The average winter temperature of 48° F and the average summer temperature of 79° F confirm the generally mild climate. There are 48 inches of annual precipitation, with over falling in the growing season (Rogers 1985:1). In spite of this, Brooks and Crass suggest an element of uncertainty in the rainfall, with the amount occurring during the prime growing season of such crops as cotton or corn having

been marginal. They suggest that this depressed "productivity relative to labor input" and encouraged "a broad spectrum subsistence base" (Brooks and Crass 1991:10).

Perhaps the most noticeable feature about the Sandhills, however, is its characteristically xerophytic vegetation. Found where there is an extremely permeable layer of sandy soil which is leached of nutrients, this pattern is maintained by fire. Curiously, the vegetational pattern can quickly change, however, depending on such factors as the presence of clay subsoil and the depth of the water table. Barry remarks, for example:

> the complete transition from a xeric turkey oak barren to a hydric bay or pocosin can occur within a remarkably short distance, often with very little ecotone (Barry 1980:100).

While Turkey Oak Barrens and Scrub Oak Barrens occur in the vicinity of the project area, the more dominant vegetation is the Xeric Pine-Mixed Hardwood, evidencing a slightly more mesic condition. However, it should be cautioned that the southern portion of the study tract is under cultivation, while the northern portion has been intensively logged and is in second growth. Consequently, the natural ecological conditions have been considerably altered. It seems likely, however, that this region historically would have been characterized by loblolly pines, perhaps red cedar, and post oak. Hickories would have included primarily the pignut hickory. The earliest plat of the survey area, in fact, indicates 10 pines, one hickory, and one gum (in a branch) as boundary trees. The presence of the gum is suggestive of infrequent fires and wet soils dominated by red bay, gum, and bald cypress. Understory plants, then as now, would include dogwood, sassafras, blackgum, and persimmon. Today, however, the topography is rather monotonous, with second growth pine and agricultural fields dominating the landscape.

Historic Synopsis of the Survey Area

Research into the early history of the project tract was immediately complicated by the division of the property among several owners and was further compounded by the organization of the available records. In addition, the project area, today in Aiken County, was originally part of Barnwell County, the division not occurring until 1871. This necessitated work in two county records offices. It became clear, during this research, that neither office is organized to promote or encourage historical research. Regardless, it was possible over two days of research in Aiken and Barnwell counties to trace portions of the project area into the Civil War period. It is likely that with considerably greater effort it would be possible to reach at least the Colonial period. The available historical account, while sparse, does succeed in providing some indication of occupation and land use in the project area.

The earliest account of the area comes from the deed of 1629 acres to L.C. Duncan from B. Weathersbee, a planter, on June 22, 1863 for $6500 (Barnwell County Clerk of Court, DB PP, p. 203). The two tracts included the 400 acre Wolf (also spelled "Wolfe") Pit and the 1229 acre Mill Tract. A plat for this property is shown in Figure 3, although it unfortunately provides no indication of land use or settlement. It is also difficult to establish its precise orientation since relatively few geographic or cultural features are present. The road which bisects the property appears to represent the approximate location of the modern US 78, historically known as the Charleston Road. This would also have been the location of the South Carolina Railroad and it is unusual that the plat failed to show this right of way through the lands. The "Stage Coach Road" shown at the northern edge of the property is probably modern SC 302, which historically lead to the Pine Log Bridge across the South Edisto River. While the plat fails to show any occupation, this cannot be taken as clear evidence that no settlements existed on either of the two tracts. Weathersbee identification as a planter, rather than perhaps a merchant, would suggest that at least portions of the

property might have been cultivated.

Regardless, the new owner, Dr. Langdon.C. Duncan, held the parcel through the Civil War. Shortly after the war, in 1869, John A. Bowie of Atlanta, Georgia brought a civil suit against Duncan in the Court of Common Pleas. Unfortunately, the records of this case could not be identified in Barnwell County. As a result of the action, however, the Clerk of Court, William A. Nerland, was directed to sell Duncan's property to satisfy the court judgement and on March 7, 1870 the land was purchased by Bowie for $2261, reflecting the devaluation following the Civil War (Barnwell County Clerk of Court, DB XX, p. 28-32). The tract sold by Nerland had been divided into three parcels, Tract A containing 433 acres, Tract B containing 705 acres, and Tract C containing 445 acres, for a combined total of 1583 acres. Although Wolf Pit and Mill Tract were both referenced, the reduced acreage was apparently the result of a new survey, conducted by S. Mixon and certified on February 5, 1870. This plat, however, could not be identified under the name of Nerland, Bowie, or Duncan.

Five years later, in 1875, Bowie, still shown as an Atlanta resident, sold the 1433 acres (listed as Tracts A, B, and C) to J.A. Walker for a mere $900 (Aiken County RMC, DB C, p. 32). The decline in value, coupled with Bowie's out-of-state residence, suggests that the land had been sitting idle. Unfortunately, it is also impossible to determine what Walker may have done with the parcels, although on May 20, 1879 he sold 350 acres, consisting of portion of the survey tract, to Kate E. Yates for $550, suggesting that land values were slowly beginning to rise (Aiken County RMC, DB E, p. 287). The property was bounded to the south by the South Carolina Railroad, the first mention of this very important landmark.

Yates held the tract just under three years, selling it on April 4, 1882 to John Wigfall for $400, taking a small loss on the purchase price (Aiken County RMC, DB H, p. 194). Curiously, this particular deed offers a partial, and incorrect, derivation, suggesting that the owner and/or Yates was unfamiliar with the tract, perhaps retaining it only for investment or speculative purposes. In spite of the incorrect derivation, this deed continues to reference the southern boundary as the South Carolina Railroad.

The property was sold at public auction in 1894 to satisfy a mortgage on the lands, given by Mrs. Agnes A. Kilpatrick of Philadelphia. The tract was purchased by Mrs. Kilpatrick for $5600 (Aiken County Clerk of Court, DB X, p. 208; see also Aiken County Clerk of Court, Mortgage Book I, p. 139 which was unavailable at the time of this research). Mrs. Kilpatrick, still listed as "of Philadelphia," sold the parcel, now listed as 312 acres rather than 350 acres, in 1896 for $6000 to Arthur W. Cushman (Aiken County Clerk of Court, DB Z, p. 49). By this time the recital indicates that surrounding lands were owned by some of the more prestigious of Aiken's citizens, including the Woodward and Taylor families. The southern boundary is still listed as the railroad, although it is now the South Carolina and Georgia Railroad. Just eight days later Arthur Cushman sold three tracts, listed as 133 acres, 48 acres, and 35 acres to Jabez B. Cushman (Aiken County Clerk of Court, DB Z, p. 172). Much of the land was bounded by other tracts owned by Cushman, suggesting that he was amassing a sizeable holding in the last decade of the nineteenth century.

In fact, J.B. Cushman is listed as the Grantee for 17 parcels between 1876 and 1903. These range in size from one acre to a 1500 acre tract in the Upper Three Runs area in deeded in 1890 (Aiken County Clerk of Court, DB k, p. 135; DB T, p. 115). In addition, he acquired 7 lots, primarily in the City of Aiken, during this period.

The Cushman lands were held intact as a major farm perhaps through the last decade of the nineteenth century. The next transaction reveals that upon Cushman's death his estate was partitioned to his children, including Geddings Cushman, Edward Cushman, Mrs. Mary Woodward, Mrs. Ethel Dukes, Mrs. Bessie

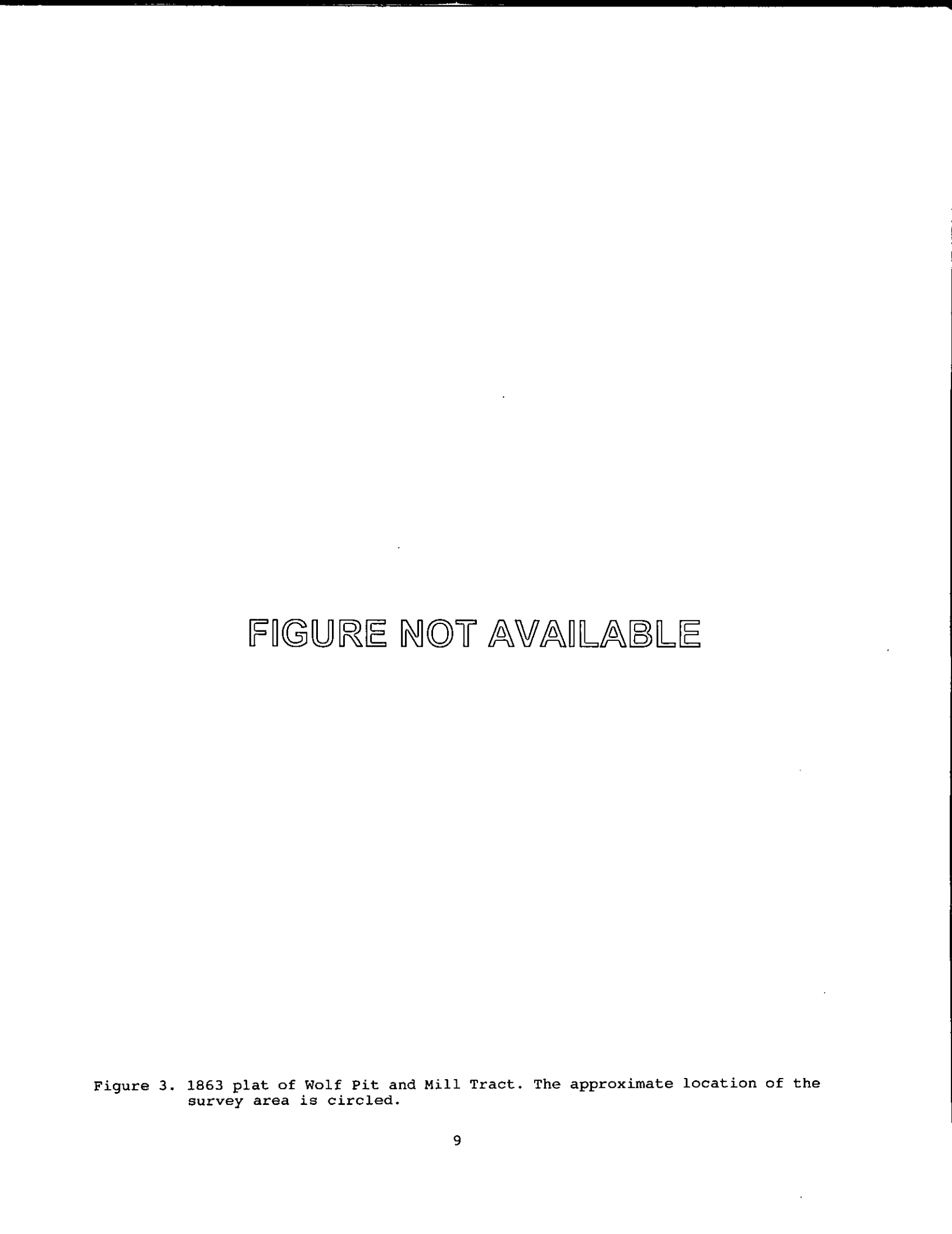


Figure 3. 1863 plat of Wolf Pit and Mill Tract. The approximate location of the survey area is circled.

Lunger, and Eliza Cushman. In 1941 Bessie Lunger was sued by the Farmers and Merchants Bank and Edward S. Croft, Master was ordered to sell 122 acres to satisfy her debts. The property, purchased by the Farmers and Merchants Bank was described as two tracts -- 98 and 23 acres -- allotted in the division of her father's estate (Aiken County Clerk of Court, DB 69, p. 242). The deed also references Aiken County Miscellaneous Book U, pp. 646 and 648, which are plats of the Cushman estate surveyed in 1905 at the direction of the court. Figure 4 shows a 172 acre tract south of the railroad (and outside of the study tract) on which are what appears to be a main house and three smaller, perhaps tenant houses.

Figure 5, however, shows the division of Cushman's lands north of the railroad, representing the southern half of the study tract. The plat indicates that the lands to the north of those shown include the "Est J B Cushman," although they were apparently not partitioned by the court. The southern portion, consisting of 390½ acres, included one large house, eight smaller houses, and a gin house. The presence of the gin and the dispersed pattern of settlement strongly suggests that Cushman was cultivating cotton using tenant labor.

A portion of northern Cushman estate was allotted by the court in 1905 (in re Laura A. Cushman et al. v. Mary Woodward et al.) to Edward Cushman. The two parcels, one 21 acres and the other 97½ acres were deeded by W.M. Jordon, Master on November 4, 1905 (Aiken County Clerk of Court, Master's DB L-1, p. 93). In 1925 the 97½ acre tract was sold by Edward Cushman to Mary C. Cushman (Aiken County Clerk of Court, DB 46, p. 265). The boundaries include lands of Geddings Cushman to the east and Mary Woodward to the west, suggesting that the Cushman property, at least for several decades, remained more-or-less intact, although under multiple ownership.

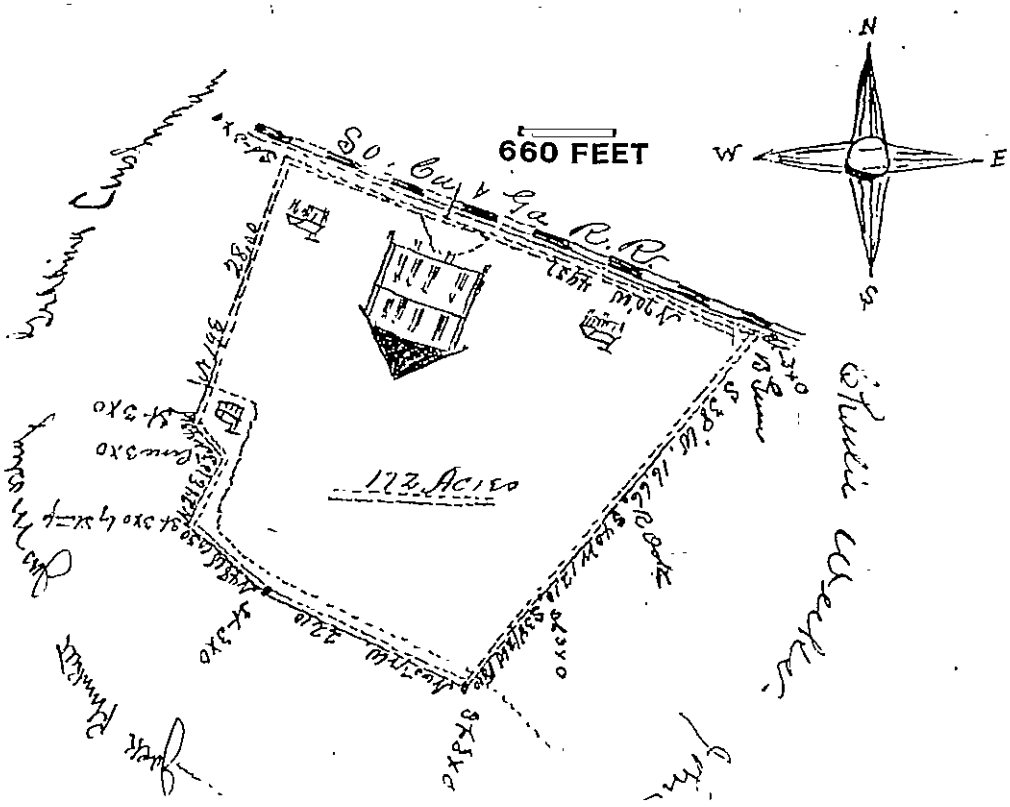


Figure 4. 1905 plat of the Cushman estate south of modern US 78.

The history of this portion of the Cushman estate is somewhat clouded, although in 1928 Edward C. Croft, Master, was ordered by the court to sell the lands of Geddings Cushman as a result of claims brought to the court by the Bank of Western Carolina. The property, consisting of 135 3/4 acres was sold to C.L. Weeks (Aiken County Clerk of Court, DB 40, p. 317). This acreage consisted of three tracts "being the farm property of Geddings Cushman" and including a 97½ acre tract with its southern boundary on the railroad.

Even before Weeks acquired the Geddings Cushman tract he had purchased an 88½ acre tract, representing an interior portion of the Mrs. Emeline Barton estate, from L.F. Barton (Aiken County Clerk of Court, DB 35, p. 270). In 1930 A. W. Weeks sold this 88½ acre tract to Charles L. Weeks (Aiken County Clerk of Court, DB 58, p. 359). While no plat has been identified, the recital clearly indicates that the parcel was situated at the northern extreme of the survey boundary, adjacent to the "Stage Coach Road," or what is today SC 302. To the east were additional lands of C.L. Weeks, formerly lands owned by Barton and Geddings Cushman. To the south were additional lands owned by Weeks, while to the west were lands still in the Barton family.

In 1938 C.L. Weeks sold the 278½ acres (representing the northern portion of the survey tract) to Theodore C Weeks, Sr. as trustee for T. Clifton Weeks (the current owner of record - Tax Map 202, Parcel 12) for $10 and "love and affection" (Aiken County Clerk of Court, DB 73, p. 257). During the 1970s portions of the property were used for farming and records in the Aiken County Tax Assessors Office indicate the presence of a "general purpose barn," a "shed," an "open shed," a "metal grainary," and a "shack." The house on the property was built in 1971, damaged by a fire in 1985 and rebuilt in 1986. Today the property consists of 692 acres -- 335 acres of tillable land, 273 acres of timber, and 84 acres of pulp. The Weeks acreage not included in this synopsis includes lands acquired from various Cushmans, indicating that the study tract, as well as much of the surrounding property has a very similar history.

From the early 1900s until the 1930s it appears that tenancy on the property may have begun to decline. The 1938 Aiken County Highway Map (Figure 6) indicates that while two structures are found north of US 78, the bulk of tenant related activities was taking place to the south of the highway. The project area is largely unoccupied.

From the Farmers and Merchants Bank the southern portion of the property found its way to G.K. Toole, Sr., then his wife, Annie Toole, and finally, through the executors to C.L. Woodward in 1944 (Aiken County Clerk of Court, DB 84, p. 218). By this time the parcel was 106 acres, bounded to the north by lands of C.L. Weeks, to the east by the estate of Claude Woodward, to the south by U.S. 78 and the railroad, and to the west by lands of C.L. Woodward (formerly lands of Bessie Lunger).

Woodward held the tract until 221½ were sold to the Bank of Greenwood in 1954 to satisfy a debt (Aiken County Clerk of Court, DB 170, p. 136; see also Aiken County Judgement Roll 14,071). A plat of the property indicates that it was situated adjacent to US 78, with Weeks' property to the northeast and west (Aiken County Clerk of Court, Miscellaneous Book 66, p. 118). The bulk of the property had been cultivated in the past and a "farm road" bisected the property on a southwest-northeast line. No structures or other cultural features are shown on the plat.

This tract, as well as several others, was conveyed by the State Bank and Trust (aka Bank of Greenwood) to Mabel W. Johnson in 1955 (Aiken County Clerk of Court, DB 185, p. 151). In 1961 the property was sold to Kenneth L. Flanders and Jane H. Flanders (Aiken County Clerk of Court, DB 241, p. 216), the current owners of record (Tax Map 203, Parcel 1, consisting of 220 acres).

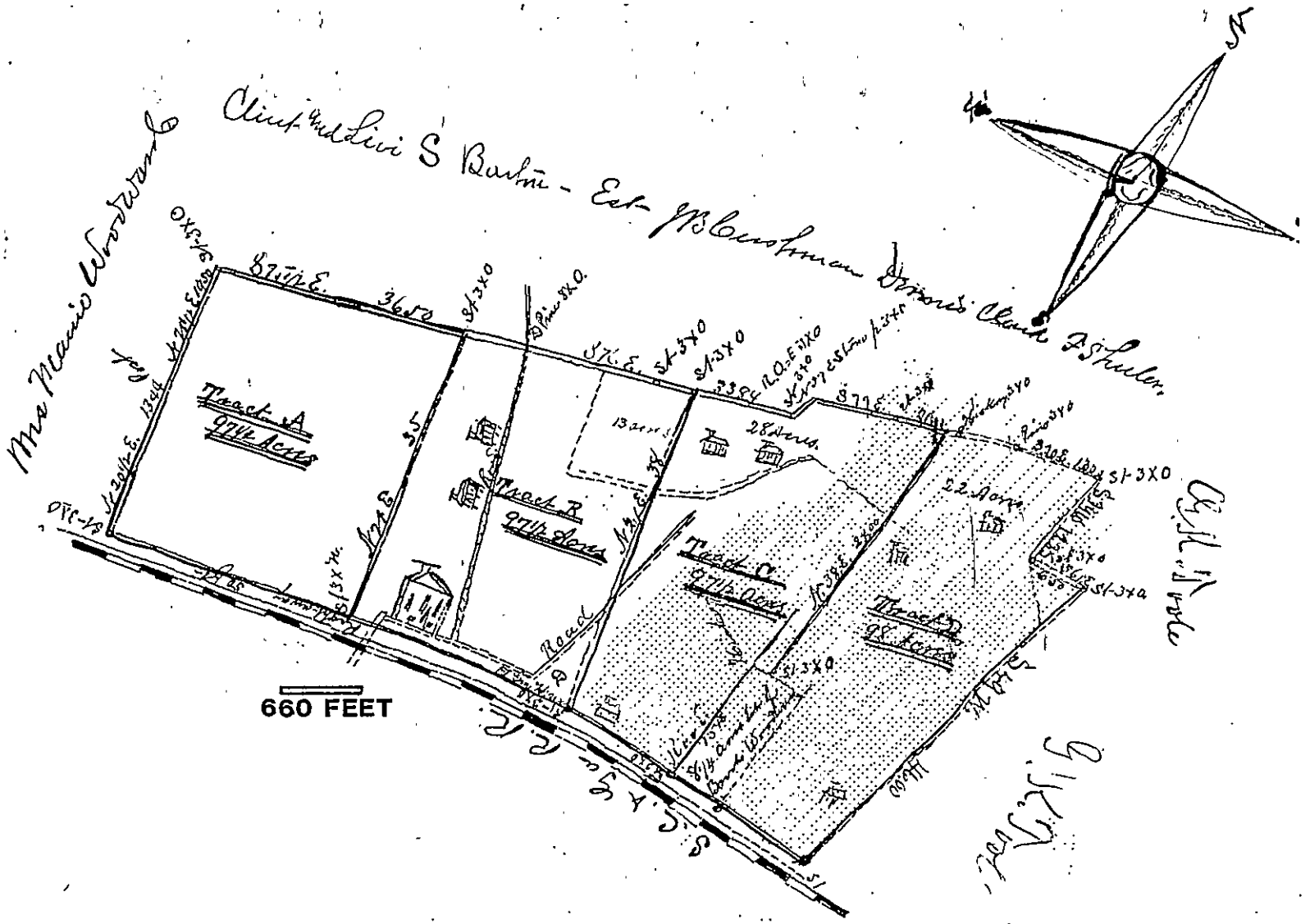


Figure 5. 1905 plat of the Cushman estate north of modern US 78 in the vicinity of the survey area (approximate location highlighted).

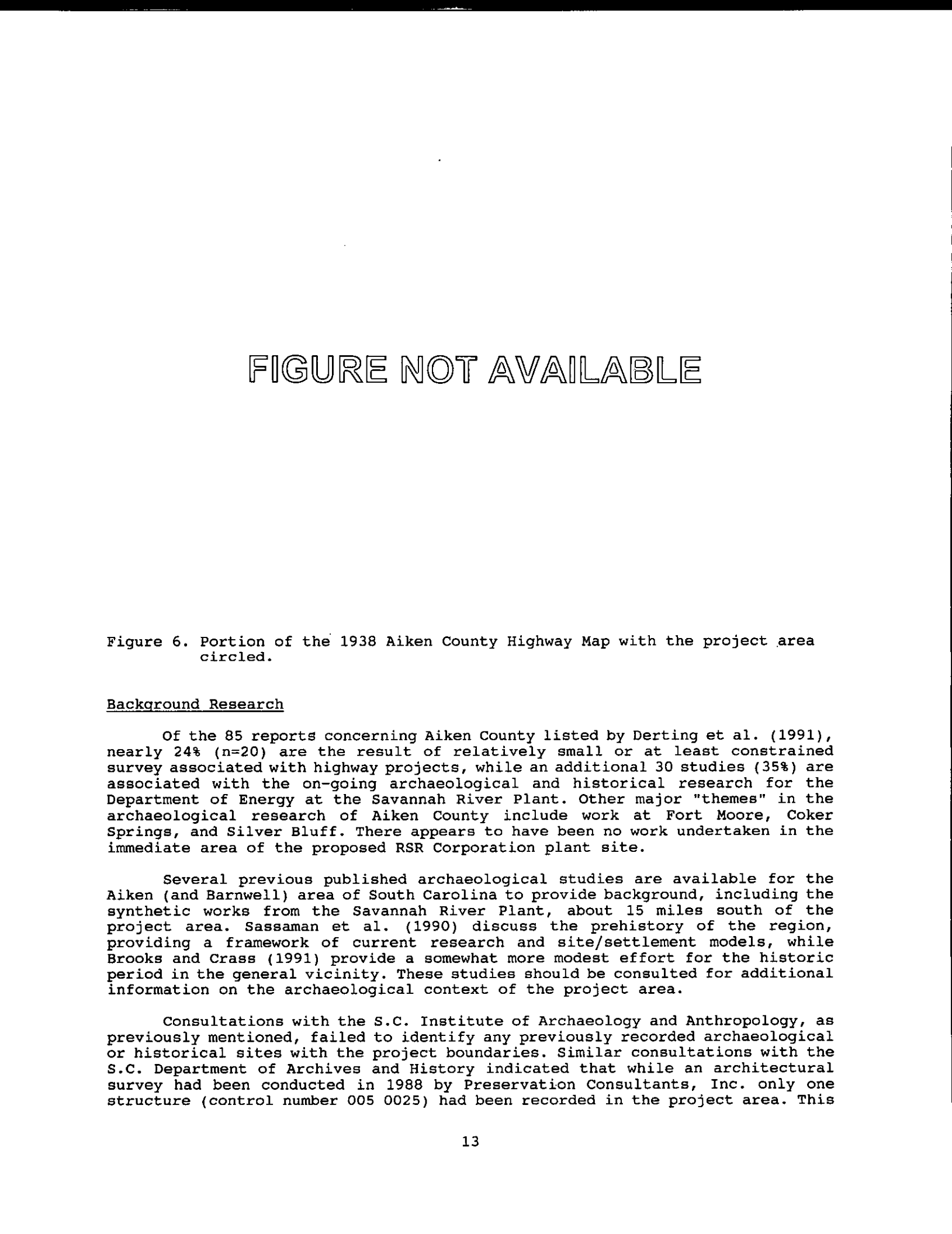


Figure 6. Portion of the 1938 Aiken County Highway Map with the project area circled.

Background Research

Of the 85 reports concerning Aiken County listed by Derting et al. (1991), nearly 24% (n=20) are the result of relatively small or at least constrained survey associated with highway projects, while an additional 30 studies (35%) are associated with the on-going archaeological and historical research for the Department of Energy at the Savannah River Plant. Other major "themes" in the archaeological research of Aiken County include work at Fort Moore, Coker Springs, and Silver Bluff. There appears to have been no work undertaken in the immediate area of the proposed RSR Corporation plant site.

Several previous published archaeological studies are available for the Aiken (and Barnwell) area of South Carolina to provide background, including the synthetic works from the Savannah River Plant, about 15 miles south of the project area. Sassaman et al. (1990) discuss the prehistory of the region, providing a framework of current research and site/settlement models, while Brooks and Crass (1991) provide a somewhat more modest effort for the historic period in the general vicinity. These studies should be consulted for additional information on the archaeological context of the project area.

Consultations with the S.C. Institute of Archaeology and Anthropology, as previously mentioned, failed to identify any previously recorded archaeological or historical sites with the project boundaries. Similar consultations with the S.C. Department of Archives and History indicated that while an architectural survey had been conducted in 1988 by Preservation Consultants, Inc. only one structure (control number 005 0025) had been recorded in the project area. This

structure is a one-story, front gable weatherboard frame house built in ca. 1885 with a shed porch. It is situated outside the facility area and consequently outside this survey tract. The structure, however, is not considered individually eligible for inclusion on the National Register by the S.C. Department of Archives and History, nor is it eligible as part of a larger district (Tracy Powers, personal communication 1993).

Research Design

The primary goal of this study, of course, was to assist the client, RSR Corporation, comply with the South Carolina Department of Health and Environmental Control requirements to consider the impact of the project on archaeological and historical sites in the facility area. Consequently, the research design was essentially explorative and explicative, with the goal being to identify any evidence of prehistoric or historic sites which might be in the project area.

Once identification is achieved, however, it is essential to assess the significance of the sites. This involves determining whether any of the sites can be recommended as eligible for inclusion on the National Register of Historic Places. Butler suggests that the only valid measurement of significance is based on what he calls the "theoretical and substantive knowledge of the discipline" at any particular point in time (Butler 1987:821). Glassow (1977) has advocated an even more widely used approach which encourages the evaluation of sites through the use of five properties or features: site integrity, site clarity, artifactual variety, artifactual quantity, and the site's environmental context. These qualities stress properties of the archaeological record at the site, rather than the site's ability or potential to assist in providing data to limited, and possibly transient, research designs. Nevertheless, no matter how well preserved a site may be, if no serious questions can be developed, then it seems unlikely that it can be considered eligible.

It should be obvious that rather than being mutually exclusive approaches, both are essential to protect significant archaeological or historical sites. There must be research questions and the site must likely be able to answer those questions. Situations exist where there are important questions, but the site is too badly disturbed to allow research, or alternatively where the site is perfectly preserved, but offers no new data.

Conveniently, the synthesis conducted as a result of the extensive work on the Savannah River Plant provides some very carefully developed research questions for future work. Those associated with prehistoric sites include research in the area of geoarchaeological issues (the most relevant for the study area being lithic quarry locations), typological/chronological issues (all requiring large, well preserved prehistoric sites suitable for stratigraphic and/or radiometric analysis), and issues of cultural patterning and process (which, involving socio-political and subsistence, will also likely require major prehistoric sites) (Sassaman et al. 1990:329-332). The research into historic issues is somewhat more diffuse, concentrating on issues such as community history, frontier/backcountry development, land tenure, and social stratification (Brooks and Crass 1991:88-91). Regardless, some general research areas are presented and it is clear where research gaps are present.

Combined, these syntheses offer assistance to gauge the significance of sites identified during the current research in Aiken County. The presence of a detailed architectural survey also assists in the evaluation of historic sites since there is a major body of comparative architectural information.

Field Methods

The survey tract was initially stratified, based on factors such as slope, soils, and proximity to water sources, coupled with the data generated by the

synthesis of previous archaeological research on the nearby Savannah River Plant. Three strata were defined, with three different levels of archaeological survey.

Areas of high archaeological probability were defined as those which incorporated ridges with high, well drained soils adjacent to drainages. Similar to the well-defined Piedmont pattern of prehistoric site locations, it was felt that along the terrace edges or ridges there would be a relatively high potential of identifying prehistoric resources.

Virtually all of these areas would be found in the northern portion of the tract and would be wooded. Consequently, we proposed to conduct the archaeological survey using shovel tests at 100 foot intervals on transects spaced at 100 feet.

Areas of moderate archaeological probability are those best described as the level, "lowland" or flat ridges found on the southern half of the survey tract. While these areas were not anticipated to be attractive to prehistoric groups (primarily because of their lack of elevation and absence of nearby water sources), they would be attractive to historic groups. Not only are these areas in close proximity to a historic road (modern U.S. 78, previously known as the Charleston Road) and historic railroad (originally the South Carolina Railroad bed), but the area would have been suitable for settlements from the colonial through early twentieth century.

These were known to be almost entirely cultivated and at the time of the survey represent good surface visibility. Consequently, in these areas the survey consisted of a pedestrian survey with transect lines (or more appropriately "lanes," spaced about 50 feet apart. Occasional shovel tests would be excavated to verify soil conditions and to test identified archaeological sites.

Areas of low archaeological probability are those found on ridge side slopes, in narrow drainageways, on eroded soils, and on poorly drained soils. Initially it was clear that much of the northern portion of the project consisted of soils with over a 6% slope (and many areas with a 10 to 15% slope). In addition, there were several small drainages which crossed through the tract. It was not, however, until the survey began that it also became clear just how extensive (and intensive) erosion was in the northern, logged portion of the study tract. In many areas the A horizon was no more than 0.3 foot, reflecting considerable truncation.

These low probability areas appeared to be unworthy of any intensive archaeological investigation, although a pedestrian survey (because of the dense woods) would gather little information. To be certain that the low probability criteria were appropriate, we determined to conduct shovel tests at 100 foot intervals on 100 foot transects over a 5% sample of the area. The areas would be selected both opportunitistically and judgementally, based both on accessibility and also with the desire to obtain a cross sample of the different types of areas. In addition to the shovel testing, we found that large segments of the low probability areas were crossed by dirt logging roads. These were essential in allowing access to all parts of the survey tract and were incorporated into a pedestrian survey as an additional "test" of the low probability determinations.

At all shovel tests the soil would be screened through ¼-inch mesh, with each test numbered sequentially by transect and area (Figure 7). Each shovel test would measure about 1 foot square and would normally be taken to a depth of at least 1 foot. All cultural remains would be collected, except for shell, mortar, and brick, which would be qualitatively noted in the field and discarded. Notes, including Munsell soil colors, would be maintained for profiles at any sites encountered.

If evidence of an archaeological site was identified, the testing interval would be decreased to 50 feet or less in order to more accurately establish

boundaries. At all sites Chicora would establish site boundaries, collect sufficient information to complete or revise site forms, and would assess and justify site eligibility for inclusion on the National Register of Historic Places. This emphasis on shovel testing is required by the tract's extensive woods coverage, which was anticipated to severely restrict surface visibility.

All site locations were recorded using a Garmin GPS (global positioning system) in an autonomous mode with selective availability. As a result, it is estimated that horizontal accuracy during this project (based on comparing GPS calculated positions to known positions) was in the range of ± 20 meters. All UTM locations are Zone 17.

These field methods were executed with no deviation. Five areas of "high probability were identified. **Area 1** consisted of a broad level ridge at the northern or northeastern edge of the property and incorporated 72 acres. It was roughly bounded to the north and west by logging roads. A series of 142 shovel tests were placed on 16 transects. No archaeological remains were found in the area, possibly the result of heavy erosion and an absence of any nearby water source. **Area 2**, incorporating 19 acres, was situated west, across a drainage, from Area 1 and was bisected by a logging road. It's topography included a ridge nose and ridge saddle. A total of 36 shovel tests were excavated on 7 transects. No archaeological site were found in this area, again probably because of the erosion and absence of a permanent water source. **Area 3** was situated to the south of Areas 1 and 2, on a broad ridge. It was bounded to the west and south by logging roads and incorporated 12 acres. A series of 45 shovel tests on 5 transects failed to identify any archaeological sites. **Area 4** was situated immediately north of the cultivated fields encompassing a large ridge nose with intermittent drainages to the east and west. A series of 65 shovel tests on 6 transects were excavated over 23 acres. One isolated artifact (a whiteware ceramic) was identified on the northern edge of the ridge nose, 38AK511 was identified at the southern end of the area. **Area 5** consisted of two transects with 17 shovel tests over 7 acres immediately south of Area 4, representing an expansion of the ridge. Site 38AK508 was identified in this area. **Area 6**, approximately 10 acres, is situated at the western edge of the facility survey tract and is bounded by logging roads to the south and to a portion of the west. It incorporates a portion of a relatively high northeast-southwest oriented ridge. A total of 30 shovel tests were excavated on three transects. One site, 38AK512, was identified. **Area 7**, chosen for the 5% sample of a low probability area was situated west of Area 3. It incorporated east and west facing side slopes and a small, intermittent drainage. A series of six transects were laid in and 62 shovel tests were excavated. No cultural remains were identified.

As a result of the initial survey, a total of 45 formal transects were placed in the study area with a total of 397 shovel tests (not including additional tests excavated to examine site areas). Further, a series of 20 transects were walked in the plowed fields at the southern edge of the site, resulting in the discovery of sites 38AK504, 38AK505, 38AK506, 38AK507, 38AK509, and 38AK510 (discussed below).

Results

As a result of the archaeological survey of the RSR facility area tract, 9 new sites were identified. In addition, one previously unrecorded standing structure in the vicinity of the tract was identified and assessed (Figure 7). For the purpose of this study, a site was defined as at least two positive shovel tests or at least three surface artifacts within a 25 foot diameter area. There were also a series of six isolated artifacts which were not assigned site numbers.

Standing Structure The previously unrecorded standing structure is situated about 1000 feet east of the facility area on a dirt farm road 800 feet north of US 78 and is identified in this survey as R/03/0000/0051.00. It consists

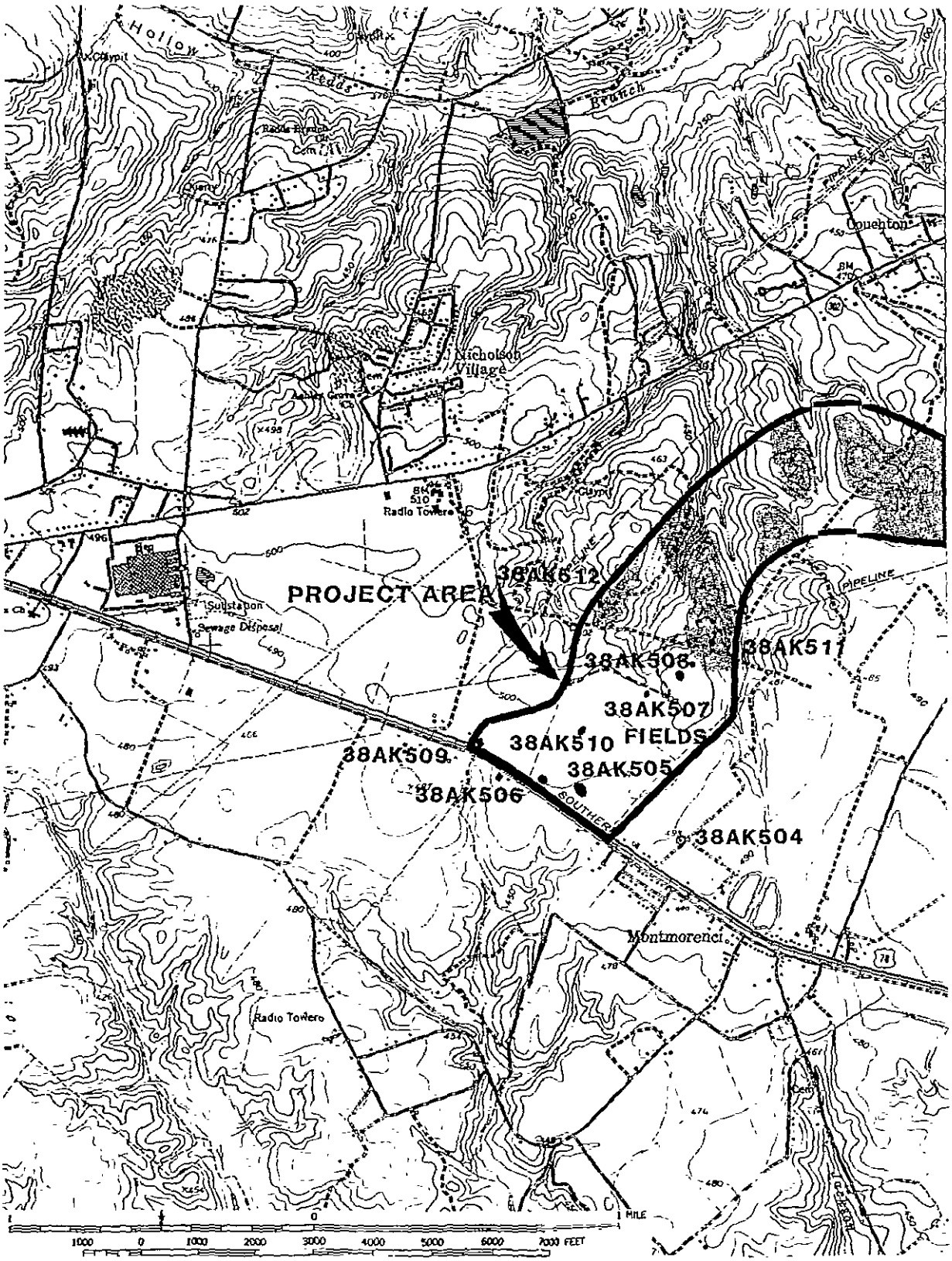


Figure 7. Survey areas and identified sites in the RSR Corporation facility area.

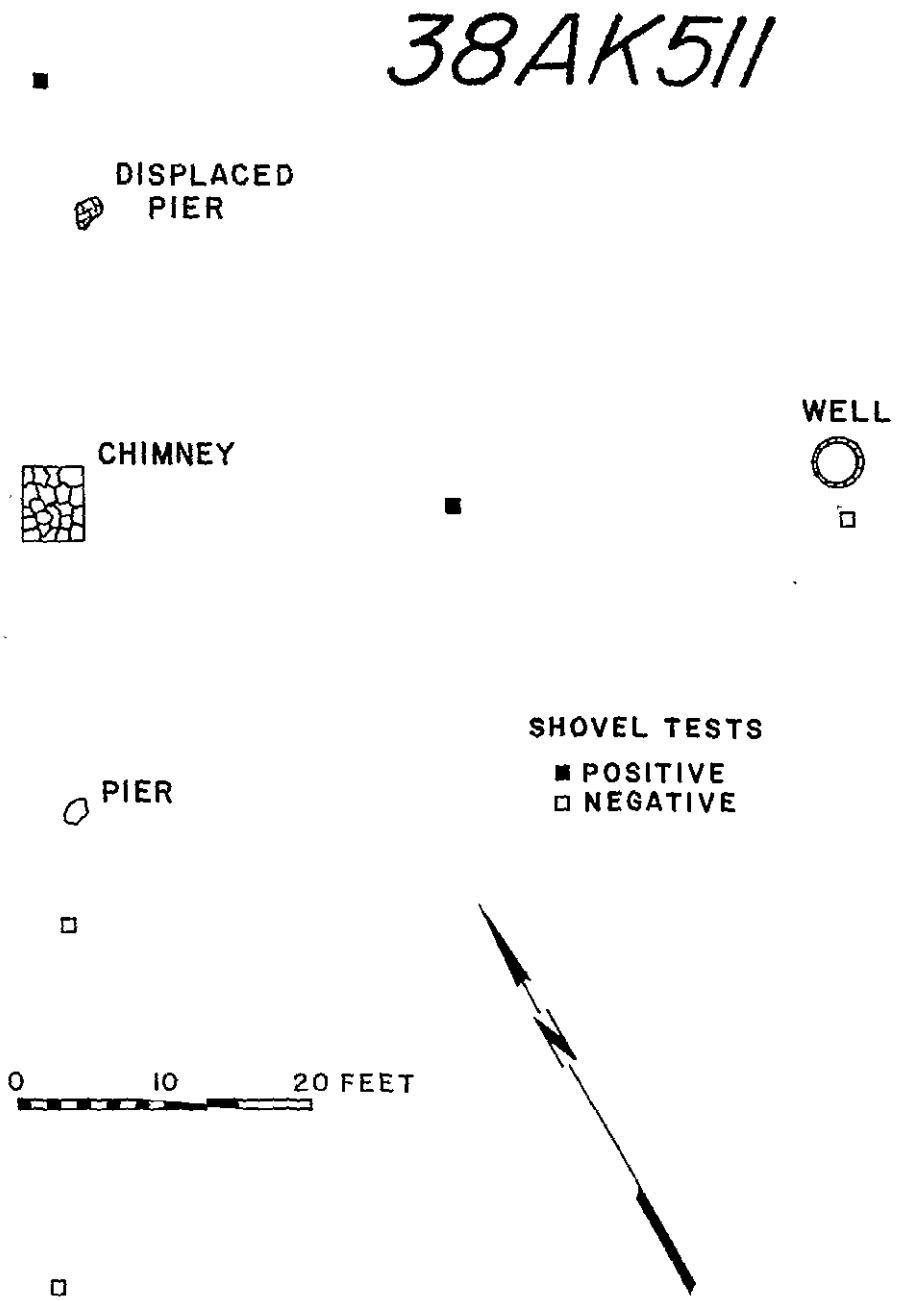


Figure 8. Location of cultural features and shovel tests at 38AK511.

of an abandoned one story, lateral gable wood frame structure set on brick pies. The exterior walls are covered in asphalt roll material and the roof is metal. A one story front facade shed porch is attached. There are two brick chimneys, one for a fireplace and the other a flue for a stove or heater. Windows are single with a 6/6 pane configuration. This structure dates from ca. 1910 and was probably associated with the tenant occupation of the farm during the period of South Carolina's agricultural depression.

It is similar to other structures recorded by Historic Preservation Consultants in 1988 and it is recommended as not eligible for inclusion on the National Register of Historic Places. It is our opinion that adequate documentary and photographic recordation has been achieved and that no further research is necessary on this structure. In addition, the structure is outside the facility area.

Associated with the standing structure is archaeological site 38AK504. This site is situated in the southern fields bordering US 78, outside the facility area. The central UTM coordinates are E440540 N3710280 and the site is at an elevation of approximately 527 feet MSL on Marlboro loamy sands. The surrounding area consists of freshly plowed fields to the east, fallow fields and a dirt road to the west and light undergrowth in the immediate structure area. Overall, at the time of the survey, surface visibility was good with only light vegetation. The site size is estimated, based on the dispersion of surface artifacts, to be approximately 175 feet north-south and 200 feet east-west, centered around the standing structure (R/03/0000/0051.00).

A series of 14 shovel tests were excavated in a cruciform pattern across the site. They indicated a brown (10YR4/2) loamy A horizon about 0.8 foot in depth overlying a brownish-yellow (10YR5/6). Seven of these tests were positive, yielding small quantities of window glass, bottle glass, or whiteware. In addition, a grab collection of selective surface artifacts was also made, primarily from the yard area of the structure. Identified materials include primarily historic remains from the early twentieth century occupation of the structure. There is, however, evidence of occupation through at least the early 1970s. To the west, however, was a very small "concentration" of lithics suggesting a prehistoric component. No diagnostic prehistoric artifacts were recovered.

This site has received very minor damage from plowing. Otherwise, the vast bulk of the tenant related materials are intact. In spite of high site integrity, site clarity is very low, given the long, and relatively recent, occupation of the site. This recent occupation has resulted in the earlier occupation being "masked" or "swamped" by very recent artifacts of mass production. It is unlikely that this site can contribute significant information regarding the period of South Carolina's agricultural depression. Likewise, the prehistoric component is very diffuse, situated in a plowed area with little integrity. Absent diagnostic artifacts or the likelihood of intact stratigraphy or features, it is unlikely that this component can address any of the major research questions posed for the project area. Consequently, the archaeological site is, like the standing structure, recommended as not eligible for inclusion on the National Register.

Site 38AK505 is situated about 2000 feet northwest of 38AK504, within the facility area about 250 feet northeast of US 78. The site appears to represent a widely scattered twentieth century domestic site with a few commingled prehistoric lithics. The central UTM coordinates are E440172 N3710371. The site is situated on Marlboro loamy sands at an elevation of about 485 feet MSL. The site, bisected to the north and bounded to the west by field roads, was identified in a freshly plowed field. Surface visibility was excellent and the site was initially identified through the pedestrian survey. Based on the dispersion of artifacts the site is estimated to about 300 feet north-south by 350 feet east-west.

A series of 16 shovel tests were excavated in a cruciform pattern across the site. Soil profiles similar to those at 38AK504 were identified. In addition a selective grab collection of materials were made from the surface of the site. Seven of the shovel tests revealed a low density of subsurface materials (exclusively glass or sparse brick) and no cultural features were identified.

The site core appears to have been dispersed by plowing, indicative of low site integrity. This is coupled with the failure to identify intact subsurface features, or concentrations of artifacts which might suggest such features. It is unlikely that this site can contribute significant information regarding the early twentieth century patterns of tenancy in the Aiken area and is therefore recommended as not eligible for inclusion on the National Register of Historic Places.

Site 38AK506 is situated immediately adjacent to US 78 within the facility area. The central UTM coordinates are E439805 N3710608. The site was in a fallow field with good visibility at the time of the survey and was found through the pedestrian survey. Based on the surface dispersion of materials, the site measures about 50 feet north-south by 100 feet east west and is bisected by an east-west running ditch in the agricultural field. The soils are Marlboro loamy sands and the site elevation is about 490 feet MSL.

After the initial discovery a series of four shovel tests were placed in the site along the central east-west axis. No materials were recovered from any of the shovel tests, although the surface materials included a sparse collection of glass and ceramics. The shovel tests did indicate profiles similar to those obtained at 38AK504, although the depth of the A horizon was only about 0.7 foot.

This site has been badly disturbed by plowing, the construction of the associated ditch, and possibly the various construction episodes of US 78. In addition, the materials recovered and site context seem to suggest a dump, rather than a structure. Regardless, the site is recommended as not eligible for inclusion on the National Register and no further research is recommended at this site.

Site 38AK507 is a small, sparse scatter of twentieth century artifacts adjacent to a wind break at the north edge of the agricultural fields within the facility area. The central UTM coordinates are E440395 N3711367 and the soils are Marlboro loamy sands. The site is at an elevation of about 500 feet MSL and at the time of the survey the fields were freshly plowed, providing excellent surface visibility. Based on the dispersion of surface materials the site appears to measure about 50 feet in diameter.

After the collection of a selective grab sample of surface materials a series of four shovel tests were excavated bisecting the site from the west to the east. Two tests yielded single fragments of glass and one test produced a very small quantity of brick (although no brick was observed on the surface of the site). The shovel tests revealed an Ap horizon of grayish brown sand (10YR4/2) about 0.7 foot overlying a yellow sand subsoil. None of the tests indicated any intact remains or the presence of a denser (or larger) site than anticipated by the surface scatter.

This site is recommended as not eligible for inclusion on the National Register. It is unlikely that the materials present, or the site condition, are adequate to address the research questions identified for tenancy during the early to mid-twentieth century.

Site 38AK508 is situated on a knoll at the north edge of the plowed fields in the facility area. The central UTM coordinates are E440579 N3711630 and the site, at an elevation of 500 feet MSL, is situated on Dothan and Troup loamy sands. The area was fallow at the time of the survey and ground cover was moderately heavy. The site was recognizable based on surface features such as

cinder blocks and tin sheets, and the associated clump of trees which are often found associated with tenant sites. About 100 feet to the northeast there is an associated scatter of artifacts, designated Area B.

Area A appears to represent an early to mid twentieth century tenant structure, while Area B may represent a refuse disposal area. Associated with Area A were quantities of glass, ceramics, roofing tin, cinder blocks, barbed wire, and a cinder block well. Based on both the surface dispersion and the associated shovel tests the site is estimated to measure about 300 feet in diameter. Area B measures about 50 feet in diameter.

A series of 15 shovel tests were excavated, primarily at Area A. Small quantities of brick, glass, and ceramics were recovered, all similar to items recovered on the surface. No subsurface features were encountered. The soil profiles revealed an Ap horizon of grayish brown (10YR5/2) sand about 1.0 foot in depth overlying a yellow sand subsoil (10YR5/6).

Although this site does contain at least one cultural feature (the well) and we recognize the importance of tenant sites such as this, 38AK508 is recommended as not eligible for inclusion on the National Register. The artifacts and the current site condition suggest a site with a long occupation, similar to 38AK504, which would have resulted in considerable "swamping" of the early components by the more recent (and more numerous) materials.

Site 38AK509 represents a scatter of mid-twentieth century remains adjacent to US 78 at the southwestern edge of the proposed facility area. The site is bounded to the south by the highway, to the west by a property line and woods, and to the east by a wind row. It was identified on the basis of a pedestrian survey through a fallow field with only light ground cover. Consequently, the estimated site size of 200 feet in diameter is based primarily on the surface dispersion of artifacts. The central UTM coordinates are E439556 N3710818 and the soils are Marlboro loamy sands. The site elevation is approximately 490 feet MSL.

The site was further tested by a series of 12 shovel tests placed in a cruciform pattern across the site. Four of these tests were positive, producing single ceramics, glass fragments, or a nail. No cultural features were identified either on the surface or as a result of the shovel tests. The soil profile revealed a similar plowing pattern to other sites in the area, with an Ap horizon about 0.8 foot in depth. The upper Ap horizon consisted of brown sand (10RY4/2) overlying a yellow (10YR6/8) sand subsoil.

This site is recommended as not eligible for inclusion on the National Register. The extent of plowing, coupled with the low artifact density and variety, suggests that the site is not able to address any of the substantive questions associated with Sandhills/Coastal Plain tenancy posed for the project area. No further research is recommended.

Site 38AK510 consists of a scatter of early to mid-twentieth century materials and one prehistoric lithic. It is situated in the middle of a large agricultural field at the southern end of the facility area which, at the time of the survey, contained standing cotton stubble. In spite of this ground surface visibility was good and the site was initially discovered as a result of a pedestrian survey. The surrounding soils are Marlboro loamy sands and the site elevation is about 495 feet MSL. The central UTM coordinates are E440160 N3710925. The site was found just east of a farm road running off US 78, about 1500 feet north-northeast of 38AK506 (what appears to be a small trash dump).

Based on a selective grab collection of surface artifacts and the excavation of 11 shovel tests in a cruciform pattern across the site, it appears to measure about 100 feet east-west by 200 feet north-south. Only one of the shovel tests yielded cultural material and no subsurface materials were identified. The surface collection failed to identify any concentration or core

site area, although the materials are consistent with a tenant occupation.

This site is recommended as not eligible for inclusion on the National Register of Historic Places. The site has been heavily plowed, there is no evidence of artifact concentrations or features, and the materials present are sparse.

Site 38AK511 is situated between the major pipeline clearing crossing the facility area and the northern-most field boundary in an area of mixed pine and hardwoods. Surface visibility was poor and the site was originally identified by transect surveys in Area 5. It includes a scatter of tin items, jars, and other domestic refuse. Surface features include a well, a fieldstone chimney base (which includes fragments of brick), and several stone piers. Abandoned nearby is an old gas stove. The assemblage of artifacts suggests a site dating from the very late nineteenth or early twentieth century through perhaps the 1940s.

The central UTM coordinates are E440720 N3711330. The site is at an elevation of about 490 feet on Troup sands. Based on the dispersion of surface materials and features, as well as additional shovel testing, the site measures 100 feet north-south by 150 feet east-west.

A series of 13 shovel tests were placed around the chimney and well (Figure 8). Six or 46% produced cultural materials. The shovel tests revealed an A horizon of gray-brown sand (10YR15/2) ranging from 0.3 to 0.9 foot overlying a compact reddish-yellow sand (5YR6/8).

This site exhibits very limited disturbances (largely associated with the nearby pipeline construction. It has not been plowed, a situation common to the other, similar, sites recorded during this survey. This degree of integrity may ameliorate concerns over the potentially long duration of occupation at the site. Consequently, the site is recommended as eligible for inclusion on the National Register of Historic Places. Significant research questions involve:

- the status of tenants in an area that has traditionally been considered of marginal agricultural potential -- is there any detectable difference in the material culture remains present at such sites when compared to other tenant sites elsewhere in South Carolina;

- the ability of more specific historic research into areas such as tax records, probate, inventories, and oral history to contribute to the archaeological research -- specifically comparing the historical information to such archaeological variables as ceramic values, faunal remains, and evidence of architectural features with the goal of refining concepts of social stratification in the project area; and

- the potential for such sites to contribute to a greater understanding of refuse disposal practices during the period -- other sites on the survey tract have evidenced discrete "dumps," suggesting that refuse may have been removed from the premises.

The identified site is thought to be able to address these questions through a multipronged investigation including intensive, close interval auger testing (to examine refuse disposal), plotting of surface debris (also to assist investigation of refuse disposal practices) block excavations (for recovery of artifact samples), and more detailed historical and oral history research concentrating on this one relatively small area.

Alternatively, of course, the site may be green spaced or permanently set aside from development. This option is discussed in more detail in a following section.

Site 38AK512 is situated on a major ridge on the western boundary of the facility area about 1000 feet east of the major pipeline crossing the project area. The central UTM coordinates are E440215 N3711580 and the site is found on Angie sandy loams at an elevation of 500 feet MSL. Identified during the transect survey of Area 6, a heavily wooded area characterized by pine and mixed hardwoods, the site boundaries of about 50 feet in diameter were established on the basis of the shovel tests.

The site was further examined by 10 shovel tests placed across the site in a cruciform pattern; only one of these tests, however, yielded subsurface remains. The site is otherwise characterized by an accumulation of primarily glass and tin debris, representing a small mid-twentieth century dump site similar to 38AK506. The associated structure, if one is present, is most likely to the west since no remains were found elsewhere in Area 6.

The site is recommended as not eligible for inclusion on the National Register of Historic Places. The site formation process appears confined to one cultural practice and is relatively recent. It is unlikely that the site can contribute to any of the previously identified research questions. Adequate information concerning the site has been collected during this investigation.

Isolated artifacts were recovered from six locations during the survey. In each case either more intensive pedestrian survey (in the case of plowed field finds) or more intensive shovel testing (in the case of transect surveys) failed to identify related materials. Consequently, these remains are not further considered in this study.

Laboratory Analysis

The cleaning and analysis of artifacts were conducted at the Chicora Foundation laboratories in Columbia. As previously discussed, it is anticipated that these materials will be cataloged and accessioned for curation at the South Carolina Institute of Archaeology and Anthropology. Site forms have been filed with the South Carolina Institute of Archaeology and Anthropology. Field notes and photographic materials have been prepared for curation using archival standards and will be transferred to the South Carolina Institute of Archaeology and Anthropology as soon as the project is complete.

Analysis of the collections is being undertaken using professionally accepted standards with a level of intensity suitable to the quantity and quality of the remains. All materials have been evaluated for their conservation needs and appear stable.

Summary and Recommendations

As a result of the archaeological survey of the RSR Corporation facility area tract, nine new archaeological sites were identified, and one standing architectural structure was also recorded. Of these eight of the archaeological sites are recommended as not eligible for inclusion on the National Register and the one standing structure is recommended as not eligible. Consequently, no further investigations are recommended for these sites.

One archaeological site, 38AK511, is recommended as eligible for inclusion on the National Register.

It should be emphasized that these are the professional recommendations of Chicora Foundation, based on our field investigations. The final determination of eligibility, however, will be made by the S.C. State Historic Preservation Office in consultation with the lead federal agency.

Green spacing (also termed site avoidance) is recognized as an appropriate, and often cost effective, mitigation measure for conservation of sites found

eligible for inclusion on the National Register. Such green spacing, however, must insure of the permanent protection and integrity of the archaeological data since the goal is to ensure that the site is available for study in the future. The following recommendations are offered if green spacing is a cost-effective and appropriate option:

1. The site area must be blocked out in the field with a buffer sufficient to ensure complete protection of the remains.

2. The site area must be cleared by hand. No heavy equipment may be used and all cut vegetation must be removed from the site area. Special care must be taken to avoid damaging any above ground remains, such as chimney footing, piers, and well.

3. The area must continue to be clearly defined during all phases of construction and property development. Appropriate techniques include the use of nylon barricade tape, barricade rope, or safety fencing. Typically flagging tape will not last throughout the construction process and flagging of boundary trees fails to provide a clearly visible barrier for construction personnel. No equipment will be allowed in the green spaced area, or be allowed to use the areas as turn-arounds. The areas will not be used to stockpile supplies or be otherwise disturbed. All personnel, including contractor's personnel, should be strictly forbidden from entering the area.

4. Any landscaping in the areas must be conducted by hand and ground disturbance must be limited to the upper 0.2 foot of soil. Above ground mounds of architectural material or debris may not be graded or otherwise displaced. No utilities, including sprinkler lines or shallow electrical cables will be placed through the area.

5. A historic easement or protective covenant protecting the area set aside in green spacing must be developed by the owner of record and this protection must be in perpetuity.

6. Appropriate security must be provided to ensure that no one digs or otherwise disturbs the site.

Green spacing often can be achieved for a particular site if the site area is not on "prime" land and if the development activities have some degree of flexibility. Green spacing provides open space and on some projects can be identified as an amenity. As open, passive parks, historical sites offer tremendous advantages to residential developments. With little additional effort, such sites can also be integrated into the marketing efforts of the development. People tend to be interested in living where historic resources have been treated with sensitivity. People also tend to enjoy living where there is a "sense" of history.

While the current project, as an industrial development, does not meet these criteria, green spacing can nevertheless be used to clearly indicate the good neighbor approach of the company and a serious desire to preserve the community's heritage. Similar benefits, however, can be obtained from data recovery, so the final decision is largely dependent on the flexibility of the design process.

While unlikely, it is always possible that additional archaeological remains may be encountered in the survey tract during construction. Construction crews should be advised to report any concentrations of brick rubble, obvious artifacts (such as bottles and ceramics), or concentrations of shell to the project engineer, who should report the material to the South Carolina State Historic Preservation Office or to the developer's archaeologist. No construction

should take place in the vicinity of these late discoveries until they have been examined by an archaeologist.

Sources Cited

Barry, John M
1980 *Natural Vegetation of South Carolina*. University of South Carolina Press, Columbia.

Brooks, Richard and David Crass
1992 *A Desperate Poor Country: History and Settlement Pattering on the Savannah River Site, Aiken and Barnwell Counties, South Carolina*. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Butler, William B.
1987 Significance and Other Frustrations in the CRM Process. *American Antiquity* 52:820-829.

Derting, Keith, Sharon Pekrul and Charles Rinehart
1991 *A Comprehensive Bibliography of South Carolina Archaeology*. Research Manuscript 211. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Duke, James A.
1961 The psammophytes of the Carolina Fall-Line Sandhills. *Journal of the Elisha Mitchell Scientific Society* 77:3-24.

Glassow, Michael A.
1977 Issues in Evaluating the Significance of Archaeological Resources. *American Antiquity* 42:413-420.

Lowry, M.W.
1934 *Reconnaissance Erosion Survey of the State of South Carolina*. U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.

Rogers, Vergil A.
1985 *Soil Survey of Aiken County Area, South Carolina*.United State Department of Agriculture. Soil Conservation Service, Washington, D.C.

Sassaman, Kenneth E., Mark J. Brooks, Glen T. Hanson, and David G. Anderson
1990 *Native American Prehistory of the Middle Savannah River Valley: A Synthesis of Archaeological Investigations on the Savannah River Site, Aiken and Barnwell Counties, South Carolina*. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Trimble, Stanley W.
1974 *Man-Induced Soil Erosion on the Southern Piedmont, 1700-1970*. Soil Conservation Society of American, Ankey, Iowa.

United States Department of Agriculture
1980 *Yadkin-Pee Dee River Basin, North and South Carolina - Forest Resources*, U.S. Department of Agriculture, Washington, D.C.